

DETAILED ACTION

Specification

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," "the invention relates to" etc.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).

- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
 - (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.
4. The abstract of the disclosure is objected to because it should avoid using phrases which can be implied, such as, "This disclosure concerns", "The disclosure defined by this invention", "This disclosure describes", "is disclosed", "are disclosed", "**The invention relates to**" etc. Correction is required. See MPEP § 608.01(b).
5. The spacing of the lines of the specification is such as to make reading difficult. New application papers with lines 1½ or double spaced on good quality paper are required. It is suggested that the applicant should use the heading for each part of the specification.

Drawings

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "18" has been used to designate both "the driver arm" and "the piston rod". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the

immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

7. Claim 13 is objected to under 37 CFR 1.75(c) as being in improper multiple dependent form. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-12 and 14-18 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

10. Claims 1-12 and 14-19 are indefinite for failing to point out what is included or excluded by the claim language. These claims are omnibus type claims.
11. In claim 1, there is insufficient antecedent basis for "the articulate arm" in line 6, "the lateral plate" and "the articulation shaft" recited in line 7 in the claim. It is also suggested to change to "A clamp for automated welding installations comprises: a body bearing fixed and mobile arms ..."
12. In claim 2, there is insufficient antecedent basis for "the tubular element" recited in line 4 in the claim.
13. In claim 5, there is insufficient antecedent basis for "the mobile arm" in line 4 and "the activation bearing" recited in line 5 in the claim.
14. In claim 6, there is insufficient antecedent basis for "the mobile arm" in line 2, "the transverse shaft" in line 3, "the activation roller" in line 5, "the swing arm" in line 8, "the elongate hole" in line 9 and "the straight area" recited in line 9 in the claim. The phrase "presents on its internal end an orifice" recited in line 3 should be changed to "presents on its internal end; an orifice" for positive recitation.
15. In claim 16, there is insufficient antecedent basis for "the calibrated covers" in line 3, recited in the claim
16. In claim 17, there is insufficient antecedent basis for "the unit setting-up of the body of the clamp" in line 2, recited in the claim.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claims 1, 2, 4-6, 8-12, 14-15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (US Pat. 4,728,767).

18. Regarding claims 1 and 19, Hayashi discloses a clamp for automated welding installations comprises a body bearing fixed 6 (Fig. 1) and mobile arms 3 (Fig. 1) which are used to hold two or more sheets (Abstract) to be handled during welding, the pneumatic cylinder 9a (Fig. 1) for activating the mobile arms of the clamp 3 (Fig. 1); the body takes the form of a central tubular element 9 (Fig. 1) having two opposing lateral plate 6b (Fig. 3) welded at the lower part.

19. Regarding claim 2, Hayashi discloses the central tubular element 9 (Fig.1) is constituted from a calibrate tube with lateral milling at the end to support the plate partially fitted which are joined to the tubular element.

20. Regarding claim 4, Hayashi discloses the opposing lateral plates 6b (Fig. 3) of the body of the clamp are cut out. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this case, the term “the opposing lateral plates of the body of the clamp are cut out and their openings are made by machining with laser beams” is considered a product-by-process claim; therefore, no patentable weight is given to the term, and the patentable weight is only given to “the opposing lateral plates of the body of the clamp are cut out”.

21. Regarding to claim 5, Hayashi discloses the opposing lateral plates 6b (Fig. 3) of the body of the clamp present lightening openings, orifices 8 (Fig. 1) for assembling the articulation shaft of the mobile arm of the clamp and elongated holes for guiding a transverse shaft bearer 8a (Fig. 1) of the activation bearing of the mobile arm 3 (Fig. 3) of the clamp.

22. Regarding claim 6, Hayashi discloses the mobile arm 3 (Fig. 1) of the clamp takes an L-shape position and presents on its internal end an orifice for the transverse shaft 8 (Fig. 1) that causes the arm to turn, said mobile arm 3 (Fig. 3) is assembled between the lateral plates 6b (Fig. 3) of the body of the clamp and an elongated hole in order to receive the activation roller 8b (Fig. 3), which is joined to the rod 9b (Fig. 1) of the pneumatic cylinder that activates the clamp; the elongated hole 7 (Fig. 1) of the arm presents a straight inferior area and a gently curved upper area to cause the progressive variation of the angle of incidence between the transverse shaft 8a (Fig. 3) activating the swing arm and the elongated hole of this arm, and thus the straight area provides an irreversibility area on triggering.

23. Regarding claims 8-11, Hayashi discloses the pneumatic cylinder 9b (Fig. 1) that activates the mobile arm 3 (Fig. 1) of the clamp 1 (Fig. 1) is lodged inside the tubular element 9 (Fig. 1) of the body of the clamp between each of the upper and lower fixed covers, the interstice is used as a passage of air connecting the upper with the lower parts of the cylinder 9 (Fig. 1), in which inside a piston associated with the rod 9a (Fig. 1) activating the mobile arm 3 (Fig. 1) of the clamp slides; the upper cover of the pneumatic cylinder presents a central axial lodging with a lower cylindrical area higher

in diameter capable of receiving the top head of the bolt (Bolt at the piston, Fig. 1) combining the piston 9b (Fig. 1) with the piston rod 9a (Fig. 1) that activates the mobile arm 3 (Fig. 1), in the upper deadlock position of the piston; the element (bolt, Fig. 1) fastening the piston 9b (Fig. 1) to the piston rod 9a (Fig. 1) that activates the mobile arm presents, in its upper part, an expansion that can fit inside the axial orifice of the upper cover of the pneumatic cylinder 9 (Fig. 1); the upper cover of the cylinder 9 (Fig. 1) that activates the mobile arm presents, moreover, an air cavity that can connect with the upper part of the cylinder through a smaller-diameter orifice and with the interstice between the cylinder casing and the tubular element of the body through a lateral flow.

24. Regarding claim 12, Hayashi discloses the detection of the angular position of the mobile arm is executed by detecting the end of the movable metal band associated to the mobile arm itself; by detection of the guide track 4a (Fig. 1).

25. Regarding claim 14-15, Hayashi discloses the position of a coupling which is combined with recesses and projections between the body of the clamp 1 (Fig. 1) and the bracket that fastens this clamp to the structure of the grip or welding tool 2 and 3 (Fig. 1) and thus it is determined a fixed spatial position between both the body of the clamp and the structure of the grip or welding tool, independently of the assembly and dismantling operations of the clamp with regard to the welding machine.

26. Regarding claim 17-18, Hayashi discloses the unit setting-up the body of the clamp comprises the body of the drive pneumatic cylinder 9 (Fig. 1) at the lower part and, at the upper part, a prismatic and straight in shape body (Refer to Fig. 1) provided with a wide transverse recess opened at the top in order to lodge a fitted turning arm 3

(Fig. 1), which is planned to move the mobile mounting bearer of fastening screws; this turning arm is lodged in this transverse opening, closing the upper part of the clamp itself in order to prevent welding splashes and other scraps from going in.

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US Pat. 4,728,767) in view of Tunkers (US Pat. 5,823,519).

29. Regarding claim 3, Hayashi discloses all the claimed features as set forth above except for the opposing lateral plates of the body of the clamp are constituted by calibrated steel. Tunkers discloses the opposing lateral plates 7 (Fig. 3) and 8 (Fig. 4) of the body of the clamp are constituted by calibrated steel (Col. 6, Line 50). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Umeda the teaching of Tunkers to use the opposing lateral plates of the body of the clamp are constituted by calibrated steel, for the purpose of accurately fitting all parts together.

30. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US Pat. 4,728,767) in view of Dellach (US Pat. 6,079,896).

31. Regarding claim 7, Hayashi discloses the gap between the two plates 6b (Fig. 3) assembled in opposite sides of the body of the clamp except for the metal band is covered the gap; metal band is provided with a longitudinal opening in which the mobile arm of the clamp passes. Dellach discloses the metal band 72 (Fig. 4) is covered the gap; metal band 72 (Fig. 4) is provided with a longitudinal opening in which the mobile arm 64 (Fig. 1) of the clamp 10 (Fig. 1) passes (Col. 5, Lines 9-24). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Hayashi to have the metal band is covered the gap; metal band is provided with a longitudinal opening in which the mobile arm of the clamp passes, as taught by Dellach, for the purpose of covering the lower pivot arm.

32. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US Pat. 4,728,767) in view of Takahashi (US Pat. 5,996,984).

33. Regarding claim 16, Hayashi discloses the two lateral plates 6b (Fig.3) of the body of the clamp except for the calibrated covers that coincide onto the external side of the lateral plates. Takahashi discloses the two cover plates 16 a/b (Fig. 1) that coincide onto the external side of the lateral plates 12 a/b (Fig. 3). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize in Hayashi to have the calibrated covers that coincide onto the external side of the lateral plates, as taught by Takahashi, for the purpose of closing the openings of the lateral plates.

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Umeda (US Pat. 4,879,447) discloses a piston actuated welding

gun pivoting arm; Murakawa et al. (US Pat. 5,783,792) discloses a welding gun arm and method of manufacturing same; Roudier et al. (US Pat. 6,065,743) discloses a device for holding, positioning or clamping.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 8:30AM-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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